Predicting the recipients of social work support and its impact on emotional and behavioural problems in early childhood

Article (Accepted Version)

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Abstract

This paper examines the recipients of social work support in the Millennium Cohort Study. Using panel analysis and fixed effects models it investigates the factors that lead to the receipt of any type of social work support for individuals with young children, and the effects of this support on changes in the prevalence of emotional and behavioural problems in these children. We find that divorce or separation, and episodes of homelessness are two important factors that lead to the receipt of social work support. Mothers with male children are also more likely to receive social work support. However, we find no clear evidence that social work support has any effect on changes in children's emotional and behavioural problems over time. The implications of these findings for social work research, and for practice and policy are discussed.

Keywords: Social Work, Family Social Work, Mental Health, Child Development

Introduction

Relatively little is known about the differences between individuals who receive advice or help from a social worker and those who do not. Furthermore, little is known about the effects of that advice or help on children and their families. In this paper, we are interested in providing an understanding of the characteristics of those who receive either advice or help from social workers, the circumstances under which they are likely to receive advice or help, and its effects on young children over time. We use the term *social work support* as a generic term for receiving either social work advice or help throughout the rest of the paper.

Using a sample of children from the Millennium Cohort Study (MCS), a birth cohort study based in the UK (Centre for Longitudinal Studies, 2016), we use panel data techniques to identify families who receive social work support, and the effects of this support on children's mental health outcomes. The following research questions are addressed:

1) What are the characteristics of families who receive social work support?
2) What events or factors increase or decrease the likelihood of receiving this support?
3) Does social work support reduce the prevalence of behavioural and emotional problems during early childhood?

Background

The Role of Social Work

In the UK, social workers may practise in the public, voluntary or independent sectors, although the professionalisation of the field and the protection of the title has led the term 'social worker' to be much more associated with the statutory role than with work in the voluntary sector where the profession had its origins (Payne 2005; Weiss-Gal and Welbourne, 2008). English guidance states that the role is to protect individuals from harm, and to promote security and social inclusion which can make a difference to the quality of the lives of individuals and their families (Social Work Task Force 2009a; 2009b). Devolution in the UK has seen social policy differences emerging between the four nations but arguably, in relation to the role of social workers, there is much more that unites these different regimes than divides them. As such, the English Government's above definition of the social worker role is a reasonable description of the role across the UK. Individuals and families might need social work support because they are made vulnerable by a wide range of problems, among them: family conflict, neglect, bereavement, caring responsibility, mental distress, challenges associated with aging, drug or alcohol abuse, difficulties as a result of any disabilities, or other challenging life circumstances. Help from social workers may be voluntarily sought or received involuntarily.

Knowing the characteristics of children whose families have had contact with social workers can be useful for several reasons. Not least, it may be helpful for purposes of early intervention and prevention, since many of these children—particular those in public care—already have existing mental and emotional health problems prior to any contact with social workers (Tarren-Sweeny 2008; Sempik *et al.* 2008). Yet relatively little is known about children and families who use social services compared to those who do not use these services (see Simkiss *et al.* 2012). There are a few American and European studies looking at specific aspects of social work service use amongst a general population (Sedlak *et al.* 2010; Franzén *et al.* 2008). However almost no studies examine the characteristics of social work service users in the UK using large datasets. Bebbington & Miles (1989) and Sidebotham *et al.* (2001) are the two notable exceptions, but both studies focus on children in care and families of children on the child protection register (or families who have been investigated for child maltreatment), rather than the broader population of those who have had contact with a social worker.

In keeping with these examples, the few studies looking at the effects of general social work interventions on children tend to focus only on children and interventions at the higher levels of risk, such as children in care (Forrester *et al.* 2009). Using general population studies, researchers have provided insights into the mental health of adopted children or children in care (Cheung & Buchanan 1997; Wijedsa and Selwyn 2011), and children on the child protection register (Sidebotham *et al.* 2001, 2006). However, no studies have focused on children whose families have received the wider spectrum of

services that we refer to as 'general social work support'. We contribute to this field by identifying both the antecedents and outcomes of receiving social work support using a large-scale UK cohort study, the Millennium Cohort Study (MCS). We look at the degree to which certain adversities (or risk factors) affect the likelihood of receiving social work support. We also take advantage of the longitudinal nature of the study to examine the impact of social work support on changes in emotional and behavioural problems during early childhood.

Adversities and risk factors

Existing research has emphasised the relationship between a multitude of adversities experienced by families, and children's outcomes. For instance, children in reconstituted or single parent families are more likely to have emotional and behavioural problems in early childhood (Heiverang *et al.* 2007; Dunn *et al.* 1998). Likewise, children from low income families are more likely to develop health problems and have worse academic attainment (Bradley & Corwyn 2002). Other risk factors associated with poorer outcomes for children include parental substance misuse, parental depression and the prevalence of domestic violence in the household (see Davidson *et al.* 2012; Sabates & Dex 2012).

In particular, many studies have focussed on the relationship between multiple risks and outcomes—where the measure of multiple risks is simply the count of the number of risk factors (Garmezy & Masten 1994). Typically studies have found that children with multiple risks experience poorer outcomes (Sabates & Dex 2012). For example Gutman *et al.* (2002) found that children with multiple risk factors had worse developmental outcomes than those with fewer risk factors. However there are several drawbacks to using to the number of risk factors as an indicator of the level of risk and adversity faced by children and their families. Measures of multiple adversities are not consistent across studies. Sabates & Dex (2012) note that there is a great deal of variation in identifying risk factors for children and families across different studies, and that ultimately the operationalisation of multiple adversities is dependent on the data available. An indicator of the number of risk factors also ignores the relationship between outcomes and individual risk factors (Masten and Sesma 1999) and the interaction between risk factors (Davidson *et al.* 2012).

In the current study we aim to capture the relationship between particular risk factors, the prevalence of childhood emotional and behavioural problems, and the likelihood of receiving social work support.

Methods

Data

The sample population for the MCS was drawn from all live births in the UK over a 12 month period starting from 1 September 2000 in England and Wales, and 1 December 2000 in Scotland and Northern Ireland. Children were selected from a random sample of electoral wards which represents the four countries in the UK. Electoral wards with higher proportions of families in poverty and ethnic minorities were oversampled to ensure adequate representation of children from these groups in the study. The first wave was carried out when the children were around nine months old; four further waves of data have since been collected when the children were aged three, five, seven and eleven years old. This paper draws on information from waves 2 – 4. Information about 18,552 families is available at wave 1, with numbers dropping to 15,590, 15,246 and 13,857 at waves 2, 3 and 4 respectively. A small number of families in the MCS have more than one focal child in the study, due to the birth of twins or triplets. Since these cases are few and twins (or triplets) have correlated outcomes (i.e. in some cases including them would mean measuring the same family characteristics twice) we omit these cases from our analyses for the sake of simplicity.

In the MCS, the main parent or caregiver is almost invariably the natural mother (e.g. 99.7% of respondents in MCS wave 1). As such, we will refer to the main parent or caregiver as the mother in the rest of the paper.

Indicator of social work support

Questions about sources of support were asked when the child was aged three (wave 2) and five (wave 3) years. Parents and caregivers were asked: "I'd like you to think about the kinds of advice you've had for yourself, your child or your family since [one year ago]. Have you turned to any of these for help or advice in the last 12 months?' They were asked to tick all among the following options that apply: someone outside home / family who looks after your child; nurse/midwife; GP (doctor); health visitor; chemist/pharmacist; religious group; drop-in centre for families (family centre); support group for parents; social worker; baby-sitting circle; telephone advice line; internet information; person running a toy library; teacher (at wave 3 only); and none of these. For the purpose of this analysis we use a dummy variable to capture receipt of advice or help of any sort. As previously mentioned, we call this type of contact social work support. There are a number of potential issues with this measure of social work support. The question asked combines advice with help, and seeking with receiving social work support. It might not capture social work contact that was unwelcome or experienced as unhelpful, which may include statutory interventions in high risk situations such as child protection. It does not offer any detail to understand the nature of the contact, its reason, the frequency of interaction, or the type of intervention. The measure may also be subject to reporting bias or misattribution because of mothers' concern about stigma in reporting social work use. Acknowledging the need for help at all in raising their children may be construed as an indication of failure, particularly if, for example, social work contact arose from concerns about child abuse or neglect (Scholte et al, 1999). Nonetheless, this paper can only

explore reported cases, and we acknowledge that many cases may go underreported for a variety of reasons. Furthermore 'sensitive cases' were excluded from the original MCS sample, amongst them cases where children had already been taken into care by the time they were nine months old (Joshi *et al.* 2002: 5).

Risk factors

Using data from the MCS we identify several adversities which may affect children and their families. These are shown in Table 1. To compile our list of adversities we draw on the work of Sabates and Dex (2012) who also used the MCS. We have also added to their list by including the age of the mother at the birth of the child, and her current relationship status as well as other characteristics likely to be associated with children's mental health outcomes, such as whether the child or the mother has a longstanding illness (Davidson *et al.* 2012).

Table 1. Descriptive summary of the MCS sample used

Variable description	Response	Wave 2	Wave 3
Whether mother has received help or advice from social workers in the last year	No	9076	9069
	Yes	138	145
Sex of MCS child	Female	4563	4563
	Male	4651	4651
Whether mother had basic skills problems	No	9032	9032
	Yes	182	182
Whether mother was in paid employment	No	3770	3332
	Yes	5444	5882
Mother's marital status	First marriage	5804	5721
	Remarried, 2nd or later marriage	546	566
	Separated or divorced	578	827
	Single never married (or widowed)	2286	2100
Whether child has any longstanding illness/disabilities/infirmities	No	7771	7457
	Yes	1443	1757
Whether mother has any longstanding illness/disabilities/infirmities	No	7221	7010
	Yes	1993	2204
Whether a mother has ever been diagnosed with depression/ serious anxiety by a doctor	No	6600	6192
	Yes	2614	3022
Whether mother currently smokes	No	6719	6851
	Yes	2495	2363
Whether mother currently drinks alcohol everyday	No	8959	8929
	Yes	255	285

Whether partner has used force in relationship	No	8929	8951
	Yes	285	263
Whether mother uses recreational drugs	No	8866	8834
	Yes	348	380
Whether mother has been made homeless in the last year	No	9092	9150
	Yes	122	64
Whether mother was a teenager at time of MCS child's birth	No	8680	8680
	Yes	534	534
Poverty indicator (Equivalised income below 60% of the median) (Poverty)	No	6915	6952
	Yes	2299	2262
Mother's ethnicity	White	8588	8588
	Black	159	159
	Indian	139	139
	Other	129	129
	Pakistani or Bangladeshi	199	199
Type of residence	Privately rented or mortgage	6791	6845
	Local authority or housing association rented (LA/HA)	1747	1680
	Other	264	213
	Owned without mortgage	412	476
Mother's highest educational qualification	Degree	1925	1927
	GCSE or above	6195	6194
	Other or none	1094	1093
Total observations		9214	9214

Children's outcomes: emotional and behavioural problems

To establish if there is a link between social work support and children's mental and emotional health, we draw on the widely used Strengths and Difficulties Questionnaire (SDQ) developed by Goodman (1997) and included in the MCS. The questionnaire seeks to capture children's emotional and behavioural problems using separate subscales for emotional symptoms, conduct problems, hyperactivity, peer relationship problems, and prosocial behaviour. Studies on the psychometric properties of the SDQ show that it has a high specificity and modest sensitivity for detecting psychiatric disorders (94.6% and 63.3% respectively (Goodman *et al.* 2000). The target population is children aged 4 to 16, but an age appropriate version of the SDQ questionnaire is also available for children aged 3. While there is a self-completion questionnaire available for adolescents (Goodman *et al.* 1998), for younger children the SDQ is designed for completion by parents or teachers. We use the total SDQ score, as assessed in the MCS by the mother, as an indicator of a child's mental and emotional health. Higher SDQ scores represent a greater likelihood of behavioural and emotional problems. For children aged 3 and 5 in the MCS the top 10% of

total SDQ scores were over 16 and 14 respectively (out of a possible maximum of 40, Kelly *et al.* 2009, 2010).

Analysis

It is possible to use cross-sectional data to examine the factors that are associated with social work contact. Previous studies have found that parents with lower educational attainments or a history of their own abuse as children are more likely to have contact with social services (Sidebotham *et al.* 2006, looking at child protection cases). However, it is hard to discern whether these factors themselves increase the likelihood of social work contact or whether they are merely associated with other unobserved (or confounding) factors that do. For example, smoking cigarettes may not itself directly or indirectly increase the likelihood of receiving social work support; but smoking may be associated with unobserved caregiver characteristics, such as risk taking behaviour or poor lifestyle choices, which do directly increase the likelihood of receiving social work. We take advantage of longitudinal nature of the MCS to examine the relationships between adversities, social work use, and outcomes for young children. Longitudinal data offers many advantages over cross-sectional data: interpreting the direction of causality is easier—although not completely straightforward—and any bias caused by confounding factors can be reduced using panel data techniques.

In order to explore the factors that increase or decrease the likelihood of receiving social work, we make use of a fixed effects model. Fixed effects work by comparing the same individuals at different periods of time in order to eliminate the effects of time-invariant factors on the outcomes of interest (Mundlak, 1978). The fixed effects approach can be extended to include discrete outcomes—such as whether a person receives social work support or not (Chamberlain 1980).

Turning to outcomes for children, evaluating the effects of social work using observational data is particularly challenging. Social work interventions are primarily targeted at vulnerable adults and children. It is also reasonable to assume that the children of vulnerable parents are themselves likely to have worse mental and emotional health outcomes (see Davidson *et al.* 2012). This raises the problem of simultaneous effects: any outcomes observed may simply be a consequence of these vulnerabilities, or they may be a result of social work support. If children whose families had received social work support had poorer outcomes we might interpret this as a consequence of their existing difficulties, that is, of a selection effect. On the other hand if these children had *better* outcomes, we might mistakenly attribute this to the success of social work interventions.

Simultaneous effects poses a substantial problem for any researcher using non-experimental data to examine the impact of social work (or other interventions) on outcomes. To mitigate this problem, we assess changes in children's emotional and behavioural problems over time using SDQ scores. A similar strategy is used by researchers when studying outcomes for children in care (Forrester *et al.* 2009). By

looking at changes in outcomes over time, instead of outcomes at a particular time, we can account for the fact that caregivers who receive social work support are likely to have children with higher SDQ scores, and we can also account for the effects of any other time-invariant factors. Since social work support is only identified at waves 2 and 3, we can only look at the impact of social work support on changes in SDQ scores between the ages of three and five (waves 2 and 3), and five and seven (waves 3 and 4). We therefore use fixed effects to determine whether social work support leads to changes in SDQ scores over this period, above and beyond the effects of any observed pre-existing vulnerabilities. Effectively, this allows us to compare outcomes for those children whose mothers receive social work support, with those who have similar profiles but no social work support.

Cases with missing responses are dropped in our analysis. We have also conducted the same analysis using complete datasets created through multiple imputation and this has yielded similar results. A breakdown of the MCS sample used in this paper is given in Table 1.

Results

What are the characteristics of families who receive social work support?

In order to establish which risk factors are associated with receiving social work support, we first used information from MCS waves 2 and 3. Data from the two waves were pooled together and we use a logistic regression to model the likelihood of a family receiving social work support. Multilevel modelling was also used to achieve the same goal; since the results were almost identical we have chosen to report the results of the simpler pooled logistic regression model (Table 2).

The model shows that mothers in employment were less likely to receive social work support (odds ratio (OR): 0.35). Mothers living in local authority or housing association accommodation were also more likely to receive social work support compared with those who rent privately or have a mortgage. Mothers who smoke were more likely to receive social work support (OR: 1.51), but those who drink alcohol every day were less likely to receive it than those who drink less (OR: 0.38). Separated or divorced (OR: 2.71), or remarried (OR: 2.06), mothers had higher odds of receiving social work support compared to mothers who were in their first marriage. For mothers with adverse circumstances such as those who had been made homeless in the last year (OR: 2.04), or had a partner who used force in the relationship (OR: 2.30), the likelihood of social work support was also increased. Furthermore, mothers who had previously been, or were currently, diagnosed with depression (OR: 2.01), were more likely to receive social work support, as were those who suffered (OR: 1.76), or whose children suffered (OR: 1.61), from any long-term physical conditions or illnesses. Finally, among the time-invariant factors considered, mothers with a male MCS child were more likely to have social work support (OR: 1.38). Also, mothers from black and other ethnicity minority groups (OR: 1.93 and 2.27) appeared somewhat more likely than white mothers to receive support.

Table 2. Pooled logistic regression results for factors predicting social work support

Predictors	Odds Ratio (OR)	Estimate	Std. Error
(Intercept)	0.01**	-5.14	0.24
MCS wave 3	1.03	0.03	0.12
MCS child is male	1.38**	0.32	0.12
Mother has basic skills problems	1.34	0.29	0.47
Mother is in paid employment	0.35**	-1.04	0.15
Mother's marital status [Ref=First marriage]			
Second (or later) marriage	2.06**	0.72	0.24
Separated or divorced	2.71**	1.00	0.18
Never married (or is widowed)	1.18	0.17	0.17
Child has long-standing illness/disabilities	1.61**	0.48	0.14
Mother has long-standing illness/disabilities	1.76**	0.57	0.13
Mother has been diagnosed with depression/ severe anxiety before	2.01**	0.70	0.13
Mother smokes	1.51**	0.41	0.14
Mother drinks alcohol everyday	0.38+	-0.98	0.59
Mother's partner has used force in relationship	2.30**	0.83	0.24
Mother uses recreational drugs	1.05	0.05	0.23
Mother has been made homeless in past 12 months	2.04**	0.71	0.32
Mother was teenager at birth of MCS child	0.76	-0.27	0.24
In poverty	1.27	0.24	0.16
Mother's ethnicity [Ref=White]			
Black	1.93+	0.66	0.36
Indian	0.38	-0.97	1.01
Other	2.27*	0.82	0.36
Pakistani/Bangladeshi	1.00	0.00	0.43
Type of residence [Ref: Private rent/ mortgage]			
Local Authority/Housing Association	1.41*	0.34	0.16
Other	1.45	0.37	0.35
Owned	0.94	-0.06	0.37
Mother's highest qualification [Ref: Degree]			
GCSE or above	0.93	-0.08	0.22
Other or none	1.18	0.17	0.25
Observations		18,428	

** p<0.01, * p<0.05, +p<0.1

What events or factors increase or decrease the likelihood of receiving social work support?

While the pooled regression model helps us to identify the antecedents of social work support, it is unlikely to allow us to indicate which factors in particular trigger the receipt of this support in the first

instance. In contrast, a fixed effects model for discrete outcomes only uses observations that have different outcomes across different time periods (Chamberlain 1980). For example, the model only uses those cases where an individual has had contact with a social worker in wave 2 but not wave 3 (or vice versa). This greatly reduces the sample to 229 cases. Due to the low sample size, we lack the power to detect all but the most substantial effects. Table 3 shows the results of the fixed effects model.

The results show that those who were separated or divorced between waves 2 and 3 were much more likely to receive social work support at wave 3 compared to those who remained in their original marriage (OR: 1.71). There is also a noteworthy increase in the odds of being in contact with a social worker at wave 3 for those who were made homeless between waves 2 and 3 (OR: 4.26, $p<0.1$). After controlling for other risk factors, it also seems that mothers with male children were more likely to receive social work support (OR: 2.68) over time.

Table 3. Results of the fixed effects model looking at factors that trigger social work support

Predictors	Odds Ratio (OR)	Estimate	Std. Error
Intercept	0.58*	-0.55	0.22
Mother is in paid employment	0.59	-0.53	0.35
MCS child is male	2.68**	0.98	0.29
Mother's marital status [Ref=First marriage]			
Second (or later) marriage	1.06	0.06	0.80
Separated or divorced	1.71*	0.54	0.64
Never married (or is widowed)	2.69	0.99	0.49
Child has long-standing illness/disabilities	1.42	0.35	0.27
Mother has long-standing illness/disabilities	1.06	0.05	0.32
Mother has been diagnosed with depression/ severe anxiety before	0.81	-0.21	0.85
Mother's partner has used force in relationship	1.61	0.48	0.51
Mother smokes	1.74	0.55	0.50
Mother drinks alcohol everyday	0.34	-1.08	1.27
Mother uses recreational drugs	0.58	-0.54	0.60
Mother has been made homeless in past 12 months	4.26+	1.45	0.85
In poverty	1.34	0.30	0.32
Observations		229	

** p<0.01, * p<0.05, +p<0.1

Does social work support reduce the prevalence of behavioural and emotional problems during early childhood?

We use fixed effects models to estimate the impact of social work support received by the mother when the child was aged 3 or 5 years, on changes to the child's SDQ scores two years later. SDQ scores are censored, meaning that scores cannot fall below a minimum of 0 or go above a maximum of 40.

Therefore any changes in SDQ scores will also be censored if SDQ scores at any wave are either 0 or 40. Fortunately this comprises only a small subset of all cases (<10%) and is unlikely to substantially bias our results[i]. As well as the indicator of whether the mother has had social work support, we include into the model the child's gender (the effects of other time invariant factors such as whether the mother was a teenager at the birth of the child, are already accounted for in the fixed effects models: . We also include in our analysis all the time-varying risk factors used in the previous models. the mother's employment status; marital status; the presence of any long-standing illness or physical conditions in mother and child; whether the mother has experienced force in a relationship in the past 12 months; whether the mother smokes, drinks every day or uses recreational drugs, and an indicator of household tenure. [Insert table 4]

Overall we do not find a statistically significant effect for mothers' social work support on changes to children's SDQ scores (Table 4). Generally we do find that those children who have had some sort of adversity in one time period show a greater reduction in SDQ scores over time than those who did not experience those adversities. This suggests that in general the effect of many adversities on SDQ may diminish over time, either as situations improve or as children gain some resilience to life adversities.

Table 4. Fixed effects model of change in SDQ over time

Predictors	Estimate	Std. Error
(Intercept)	2.40**	0.07
Has received social work support	-0.61	0.43
Mother is in paid employment	0.31+	0.16
Mother's marital status [Ref=First marriage]		
Second (or later) marriage	0.67	0.45
Separated or divorced	0.28	0.32
Never married (or is widowed)	-0.10	0.32
Child has long-standing illness/disabilities	-0.46**	0.15
Mother has long-standing illness/disabilities	-0.25	0.16
Mother has been diagnosed with depression/ severe anxiety before	-0.04	0.33
Mother's partner has used force in relationship	-0.73+	0.37
Mother smokes	-0.49*	0.23
Mother drinks alcohol everyday	0.13	0.37
Mother uses recreational drugs	-0.79*	0.37
Mother has been made homeless in past 12 months	-1.04*	0.49
In poverty	0.32+	0.17
Observations	9,214	

** p<0.01, * p<0.05, +p<0.1

Discussion

Some key discussion points emerge from these findings. The first concerns how the nature of the adversities that parents face influences their receipt of social work support. Mothers who had experienced

homelessness, or depression, were more likely than others to receive social work support; so too were those who suffered, or had a child suffering, a physical disability, or longstanding illness. These adversities may lead them to contact social service agencies. Alternatively, these adversities may well put the mothers in contact with other professional services such as police, health services, schools or other social care providers. In turn, those professionals, may either recommend to parents that they contact social workers themselves, or they may refer the case direct to social services.

Looking at changes in receiving social work support from one wave to the next, both separation and becoming homeless in the interim increased the likelihood of a mother receiving social work support. Over time mothers with male children were also more likely to receive social work support. However, we did not find strong evidence that this support reduces the development of emotional and behavioural problems over time. This does not necessarily mean that social work support has no effect on emotional and behavioural problems; lack of statistical significance could be a result of inadequate data or imprecise estimation rather than the absence of any substantial effects.

We must be very cautious when interpreting these findings. It may be that it is less realistic than we had anticipated to see an impact on the child's emotional and behavioural state resulting from social work support to their mother, which may or may not be associated with difficulties for that child. In addition, there are several unavoidable limitations to our data and to the power of our analysis. As discussed, the MCS derived measure of social work support is only a binary indicator based on self-report which may be liable to bias and misattribution. It conflates advice and help, does not distinguish between social work input sought and not sought, and it does not capture the purpose, nature or quality of support, including the question of which family member(s) the support was intended to help. Furthermore, children's emotions and behaviour are only reported by parents and not by children themselves, although it is uncommon to collect survey data from children at such a young age (7 years in wave 4).

It is also extremely challenging to evaluate the impact of social work interventions using non-experimental data. Even when using large scale cohort studies like the MCS, the number of individuals receiving social work support is very small (~2% in the MCS), making it difficult to get reasonable estimates of the impact of social work. This is not helped by the fact that information on social work in longitudinal studies, where available at all, is not collected at each time point and in the case of the MCS it is limited to two waves. Furthermore, we can only include in our analysis what has been observed within the dataset. Using fixed effects models, we have attempted to account for time-invariant as well as time-varying factors that may affect children's emotional and behavioural outcomes. However, it is not implausible that unobserved, confounding factors are biasing our findings. These might include, for example, sudden events such as bereavement or breakdown in family relationships, or significant adversities such as child maltreatment, which are not reliably captured in the MCS data but if experienced may well have an impact on children's emotional and behavioural wellbeing (Davidson *et al.* 2012). In the

MCS and other major UK surveys with general population samples, there is also a dearth of linkage with large-scale administrative datasets that might tell us more about the circumstances and adversities affecting the lives of the people studied. To date, only Sidebotham *et al* (2001, 2006) have been successful in linking social work administrative data with a cohort study, the Avon Longitudinal Study of Parents and Children, to look at risk factors associated with child maltreatment.

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Whilst noting the limitations of the data and method, it is nonetheless important to take our findings seriously and to consider possible explanations for them. There could be a number of reasons why social work support would not improve children's emotional and behavioural problems. In the 21st century UK, increasing rates of referral combined with reduced resources mean that thresholds for social workers to get involved with families beyond initial contact or assessment are increasingly high (Joint Chief Inspectors, 2008), albeit inconsistently applied (Platt and Turney, 2014). This means that substantive support may be reserved for those in situations of very high need or risk. In these cases, it could be that short-term improvement in children's emotions and behaviour is unlikely; given the challenging circumstances, improvements in quality of life might come only over the longer term. Perhaps in the face of a very difficult family situation, to maintain children's emotional and behavioural state, rather than see a deterioration, is as much as can be expected of social work. On the other hand, it could also be that routine practice does not include enough effective help for families. This may be a matter of quantity: especially for those judged at lower risk, support may be too minimal and short-lived. It may also be a matter of quality: there is some evidence that in routine practice, high quality social work is hampered by bureaucratic imperatives (Broadhurst *et al*., 2010) and also that there is a deficit in worker skills, with practitioners having a confrontational style when talking to parents (Forrester *et al*., 2008).

Conclusion

It is generally believed or expected that professional social work is crucial in supporting vulnerable families in societies. Adding to previous research (e.g. Sidebotham *et al.* 2006), our analysis of the MCS identified adversities which predicted parents receiving social work support. However, our findings did not show any clear evidence of change in children's emotional and behavioural difficulties as a result of support from social workers. Our study is among the first efforts to capitalise on the rich potential of cohort studies to increase the evidence base in social work research in the UK. Our efforts are somewhat hindered by the limited and imprecise questions on the nature, and extent of social work services used in these data sets.

It is not possible to advance the field without better quality data and this problem is not just confined to the UK (Kindler 2008). There are a number of ways to address this issue. More detailed information about social work services needs to be embedded in major cohort and panel studies. In

addition, greater linkage to anonymised routine administrative data can greatly improve the reliability of measures of social work use. This practice is now becoming mainstream in health care research, but in social care we have a long way to go. Better data availability could allow for analytic techniques, such as the use of instrumental variables, which can deal with the problem of relevant omitted variables and simultaneous effects that is likely to compromise any analysis using non-experimental data (Rose & Stone 2011).

The implications of the research for practice and policy are ambiguous because of the methodological challenges, including the limitation of the social work support variable. However, if it is the case that social work support to mothers does not improve children's well-being, then there may be work to do for the social work profession in identifying which aspects of practice need to be improved. It may be that the lack of improvement in outcomes reflects the critique that social work practice has become overly bureaucratised at the expense of purposeful direct help for families (Munro, 2011). It may also be that the good relationships which are essential for the provision of quality help are compromised by parents' apprehension about the statutory child protection role. However, caution is needed in drawing any firm conclusions for future practice, in the light of limitations in the data.

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[i] [i] To demonstrate we simulated a dataset where the outcome y^* was equal to$\beta_0 + \beta_1 x + e$. Both e and x are independent draws from the standard normal distribution. The true values of β_0 and β_1 were 0 and 1 respectively. Using a simulated dataset of 10,000 cases where values of y^* *below* -1.81 was recorded as -1.81 (i.e. 10% of the data was censored), the OLS estimates of β_0 and β_1 were 0.07 and 0.90 respectively.